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Intrinsic electron paramagnetic resonance in La2-ξSrξCuO4: Manifestation of three spin polarons

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Abstract

Electron-Paramagnetic-Resonance (EPR) measurements on La2-xSrxCuO4 single crystals provide experimental evidence of a three-spin polaron of two Cu2+ ions and one p hole. The symmetry properties and the peculiar temperature dependence of the g-value of the EPR line indicate the presence of a dynamical Jahn-Teller distortion (Q2-rnode) and formation of a collective mode of polarons and surrounding strongly correlated Cu ions (bottleneck regime). © 1999 Plenum Publishing Corporation.